

IN THE CLAIMS

Please amend the claims as follows.

- 1 1. (Currently Amended) An apparatus comprising:
 - 2 at least one processor;
 - 3 a memory coupled to the at least one processor;
 - 4 a network interface that couples the apparatus to a network that is coupled to a
 - 5 plurality of other computer systems and wherein the apparatus and the plurality of other
 - 6 computer systems form a cluster of computers that cooperate via ordered messages to
 - 7 perform a task; and
 - 8 a cluster communication mechanism residing in the memory and executed by the
 - 9 at least one processor, the cluster communication mechanism including a sliding send
 - 10 window that communicates at least one ordered message to a plurality of the other
 - 11 computer systems without waiting for an acknowledge message from any of the plurality
 - 12 of other computer systems before sending out the next ordered message.
- 1 2. (Original) The apparatus of claim 1 wherein each ordered message includes a header
- 2 with information that indicates whether an acknowledge message for the ordered
- 3 messages may be delayed and grouped with at least one subsequent acknowledge
- 4 message.
- 1 3. (Original) The apparatus of claim 2 wherein the acknowledge message acknowledges
- 2 from one to a plurality of ordered messages.

1 4. (Currently Amended) A networked computer system comprising:
2 a cluster of computer systems that cooperate via ordered messages to perform a
3 task wherein [[that]] each computer system includes:
4 a network interface that couples each computer system via a network to
5 other computer systems in the cluster;
6 a memory; and
7 a cluster communication mechanism residing in the memory, the cluster
8 communication mechanism enforcing execution of a plurality of received
9 messages in the order the plurality of received messages were received, the cluster
10 communication mechanism including a sliding send window that communicates at
11 least one ordered message to a plurality of other computer systems without
12 waiting for an acknowledgment from any of the plurality of other computer
13 systems before sending out the next ordered message.

1 5. (Original) The networked computer system of claim 4 wherein each ordered message
2 includes a header with information that indicates whether an acknowledge message for
3 the ordered messages may be delayed and grouped with at least one subsequent
4 acknowledge message.

1 6. (Currently Amended) A computer-implemented method for processing a task in a
2 clustered computing environment, the method comprising the steps of:
3 providing a cluster communication mechanism executing on a first computer
4 system in a cluster wherein the computers in the cluster cooperate via ordered messages
5 to perform the task and wherein the cluster communications mechanism [that] includes a
6 sliding send window that communicates at least one ordered message to a plurality of
7 other computer systems in the cluster without waiting for an acknowledgment from each
8 computer system in the cluster that received an ordered message before sending out the
9 next ordered message;
10 the cluster communication mechanism sending a first ordered message to a first
11 plurality of other computer systems in the cluster; and
12 the cluster communication mechanism sending a second ordered message to a
13 second plurality of other computer systems in the cluster without waiting for a response to
14 the first ordered message from each of the first plurality of other computer systems in the
15 cluster.

1 7. (Previously presented) The method of claim 6 further comprising the step of at least
2 one of the first plurality of other computer systems in the cluster responding to the first
3 and second ordered messages by sending a single acknowledge message to the cluster
4 communication mechanism that acknowledges both the first and second ordered
5 messages.

1 8. (Original) The method of claim 6 wherein the first and second ordered messages each
2 include a header with information that indicates whether an acknowledge message for the
3 first and second ordered messages may be delayed and grouped with at least one
4 subsequent acknowledge message.

1 9. (Currently Amended) A program product comprising:
2 (A) a computer program comprising:
3 (A1) a cluster communication mechanism that includes a sliding send
4 window that communicates at least one ordered message to a plurality of other
5 computer systems in a cluster computer system that cooperate via ordered
6 messages to perform a task without waiting for an acknowledgment from any of
7 the plurality of other computer systems before sending out the next ordered
8 message; and
9 (B) computer-readable signal bearing media bearing the computer program.

1 10. (Original) The program product of claim 9 wherein the signal bearing media
2 comprises recordable media.

1 11. (Original) The program product of claim 9 wherein the signal bearing media
2 comprises transmission media.

1 12. (Original) The program product of claim 9 wherein each ordered message includes a
2 header with information that indicates whether an acknowledge message for the ordered
3 messages may be delayed and grouped with at least one subsequent acknowledge
4 message.

1 13. (Previously presented) The apparatus of claim 1 wherein the cluster communication
2 mechanism communicates the at least one ordered message to the plurality of other
3 computer systems via IP multicast.

1 14. (Previously presented) The apparatus of claim 1 wherein the cluster communication
2 mechanism enforces execution of a plurality of received messages in the order the
3 plurality of received messages were received.

- 1 15. (Previously presented) The method of claim 6 wherein first plurality of computer
2 systems includes all computer systems in the second plurality of computer systems.
- 1 16. (Previously presented) The method of claim 6 wherein the first plurality of computer
2 system comprises the second plurality of computer systems.
- 1 17. (Previously presented) The method of claim 6 wherein the cluster communication
2 mechanism communicates the at least one ordered message to the plurality of other
3 computer systems via IP multicast.
- 1 18. (Previously presented) The method of claim 6 wherein the cluster communication
2 mechanism enforces execution of a plurality of received messages in the order the
3 plurality of received messages were received.
- 1 19. (Previously presented) The program product of claim 9 wherein the cluster
2 communication mechanism communicates the at least one ordered message to the
3 plurality of other computer systems via IP multicast.
- 1 20. (Previously presented) The program product of claim 9 wherein the cluster
2 communication mechanism enforces execution of a plurality of received messages in the
3 order the plurality of received messages were received.